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Climatic Perspectives

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June 24 to 30, 1991

A weekly review of Canadian climate and water

Vol. 13 No. 26

Severe forest fire outbreak in Quebec

The summer's heat has escalated temperatures in the Baie Comeau region to the mid to high 20's. The light precipitation and moderate northeasterly winds of 23 km/h, fanned two severe forest fires that have been raging out of control. In addition, 59 spot fires have also been reported in the province, bring the seasonal total of forest fires to 629.

The most serious are the Betsiamites and Forestville forest fires. These fires have consumed 2,800 square kilometres of wilderness, with the billowing smoke reaching the Baie Comeau area and as far as the Maritimes.

Eight Canadair CL-215 water bombers have been dispatched from Newfoundland, Saskatchewan and Ontario, to battle these infernos. The water bombers can collect up to 1,200 imperial gallons of water at a time, taken from the St. Lawrence. Before dousing the flames, the water is injected with a foam product to increase its penetrating capabilities.

Fire fighters have managed to curtail the path of the flames, with the help of northwesterly winds, driving the blaze towards the river. At the moment, the fires appear to be under control.

Soil moisture at record levels in the Prairies

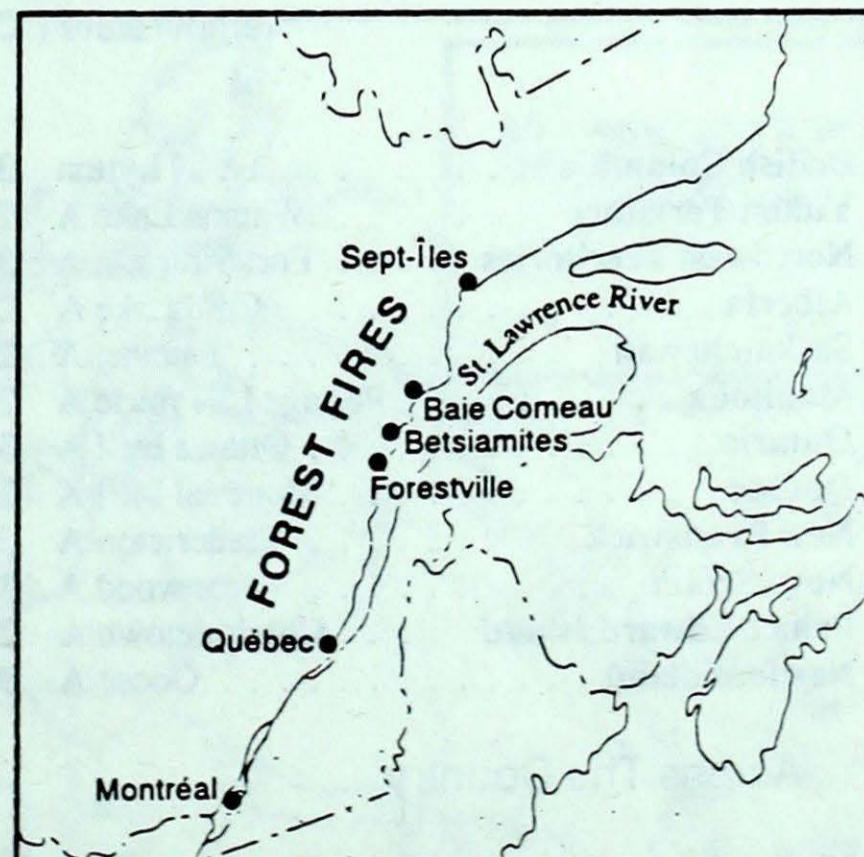
Southern Saskatchewan continued to receive heavy precipitation this past week, with maximum daily and weekly totals at Regina reaching 48.6 and 152.6 millimetres, respectively. The persistent rains have impeded seeding of some fields, and the excessive moisture has also delayed haying operations, resulting in a poorer quality crop.

Soil water reserves are at very high levels in most southern prairie regions. During the past three months total precipitation has broken records dating back to 1902. Agriculturalists state that one drawback to a wet spring is that the easy access to water reduces root development into lower subsoil levels. If any serious dry spells should occur later this season, there is a possibility that the roots will not be able to reach

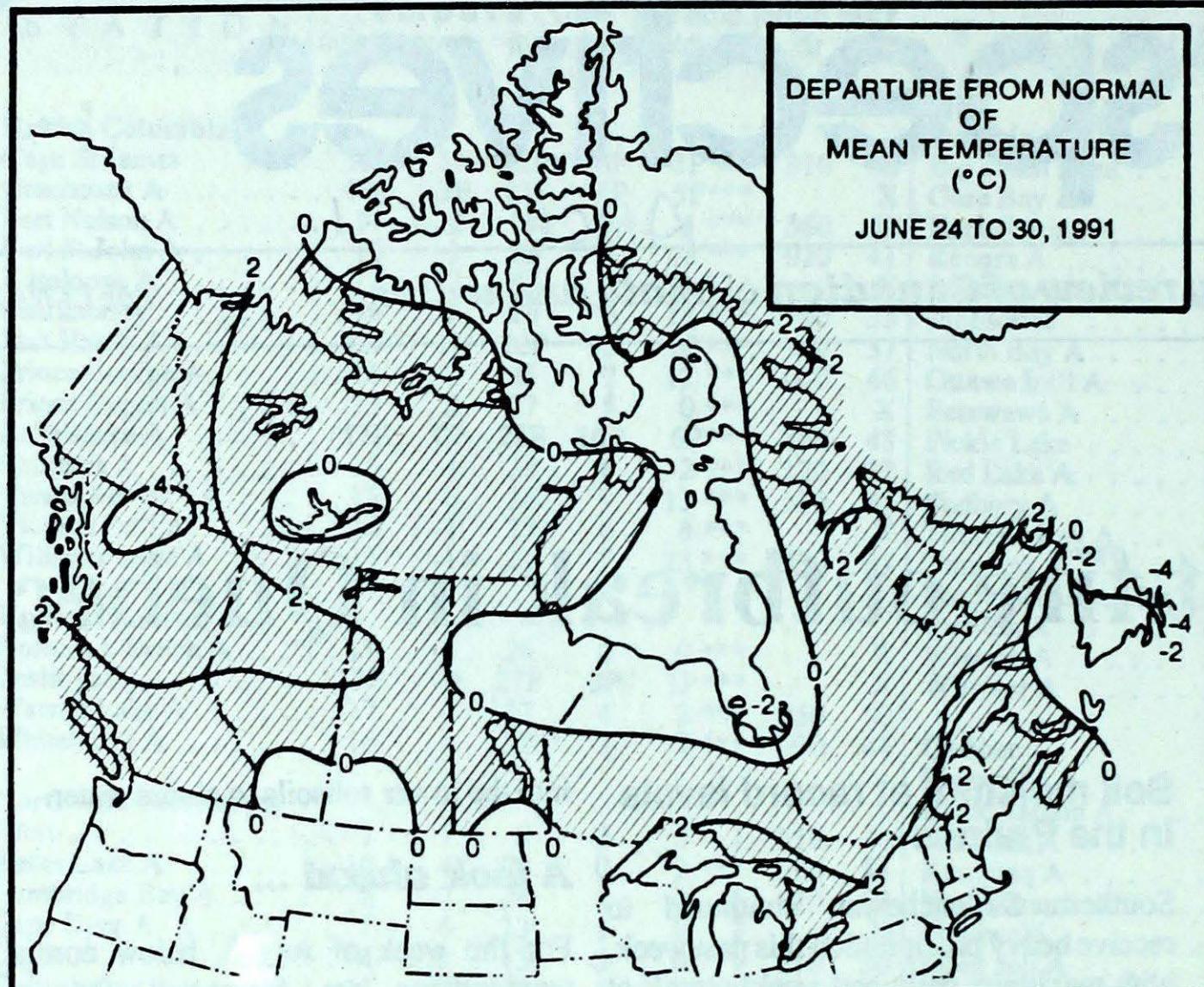
into the lower subsoils to obtain water.

A look ahead ...

For the week of July 8, below normal temperatures are forecasted for the Yukon, northern B.C. and Alberta, all under the influence of a zone of low pressure. Elsewhere, near normal readings will prevail with the exception of Newfoundland, which can expect lower than normal temperatures.



At the end of the period, 59 forest fires were burning in Quebec, bringing the seasonal total to 629 fires and 361,494 hectares of forest destroyed, of which 296,688 hectares are from the north-shore fires. The cumulative 5-year average to this date is 610 fires and 40,268 hectares burned.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	18.8	6.8
Iqaluit A	9.3	2.2
Yellowknife A	20.0	10.6
Vancouver Int'l A	19.4	11.2
Victoria Int'l A	19.3	9.8
Calgary Int'l A	20.3	7.7
Edmonton Int'l A	20.6	8.0
Regina A	23.7	10.4
Saskatoon A	23.1	10.2
Winnipeg Int'l A	24.9	12.5
Ottawa Int'l A	25.3	14.3
Toronto (Pearson Int'l A)	25.6	13.5
Montréal Int'l A	25.3	15.1
Québec A	23.7	12.3
Fredericton A	24.5	11.6
Saint John A	21.2	10.0
Halifax (Shearwater)	20.6	11.1
Charlottetown A	21.6	11.6
Goose A	18.6	7.4
St John's A	17.9	8.0

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Lytton 31	Puntzi Mountain (aut) 5	Prince Rupert A 41
Yukon Territory	Watson Lake A 29	Shingle Point A 1	Teslin (aut) 15
Northwest Territories	Fort Simpson A 30	Mackar Inlet -2	Mackar Inlet 20
Alberta	Cold Lake A 27	Jasper 3	Banff (aut) 57
Saskatchewan	Estevan A 28	Collins Bay 6	Regina A 153
Manitoba	Portage La Prairie A 29	Churchill A 0	Brandon A 85
Ontario	Ottawa Int'l A 35	Moosonee 0	Thunder Bay A 61
Québec	Montréal Int'l A 33	La Grande Rivière 0	Chibougamau Chapais a 65
New Brunswick	Fredericton A 33	St Stephen (aut) 5	St Stephen (aut) 34
Nova Scotia	Greenwood A 31	Sydney A 6	Sable Island 20
Prince Edward Island	Charlottetown A 27	Charlottetown A 8	East Point (aut) 17
Newfoundland	Goose A 30	St. Anthony A -1	Goose A 61

Across The Country...

Highest Mean Temperature	Windsor A(ONT) 25
Lowest Mean Temperature	Mould Bay A(NWT) 0

CLIMATIC PERSPECTIVES
VOLUME 13

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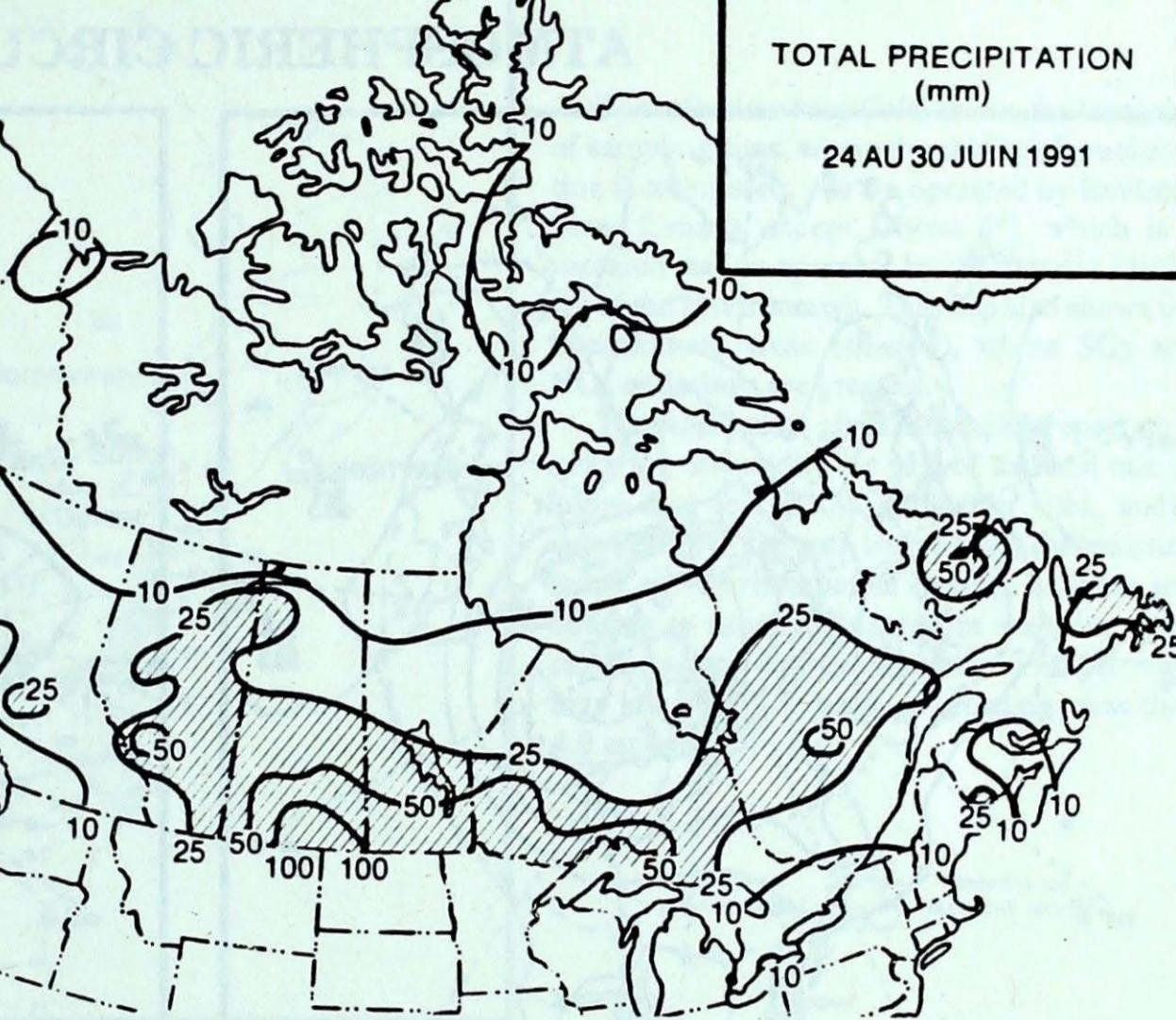
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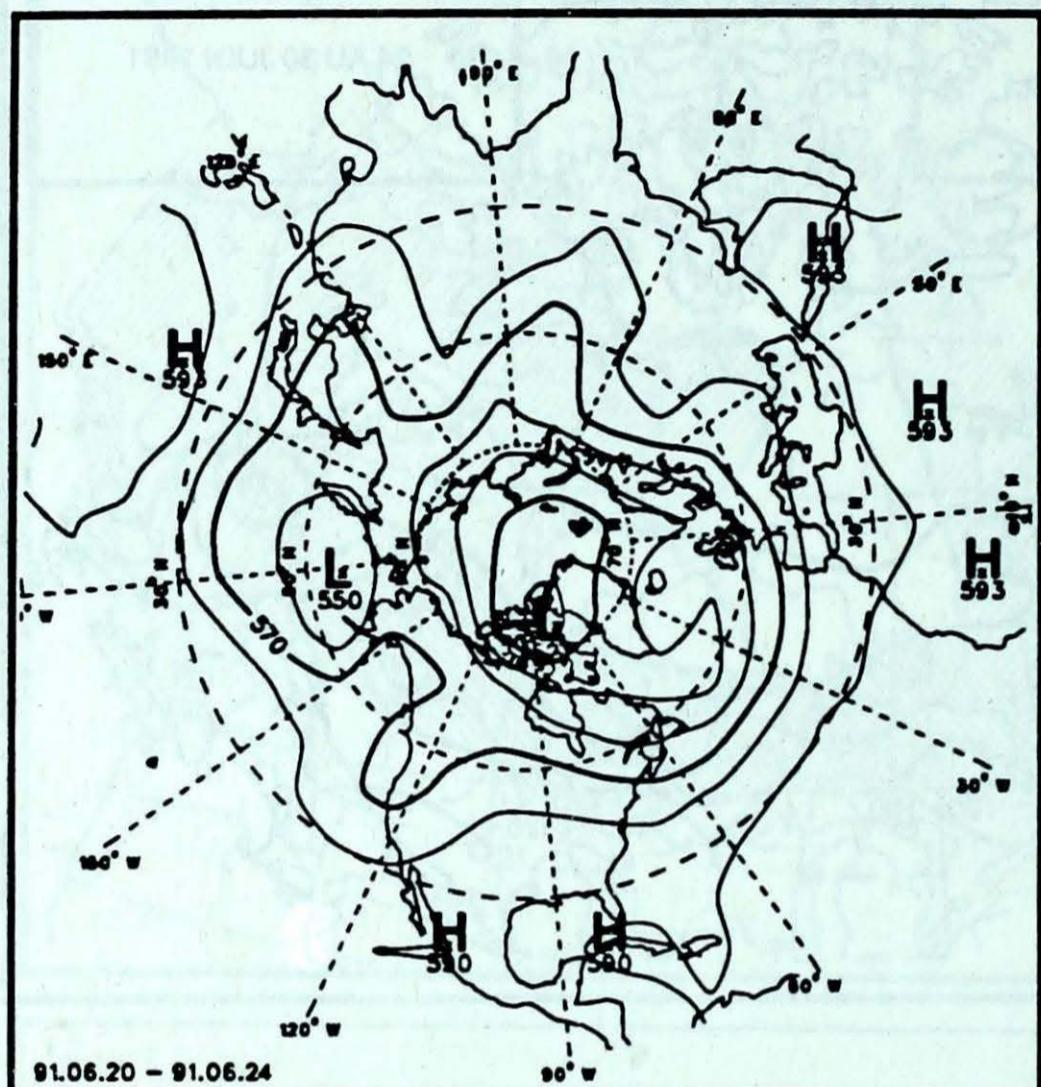
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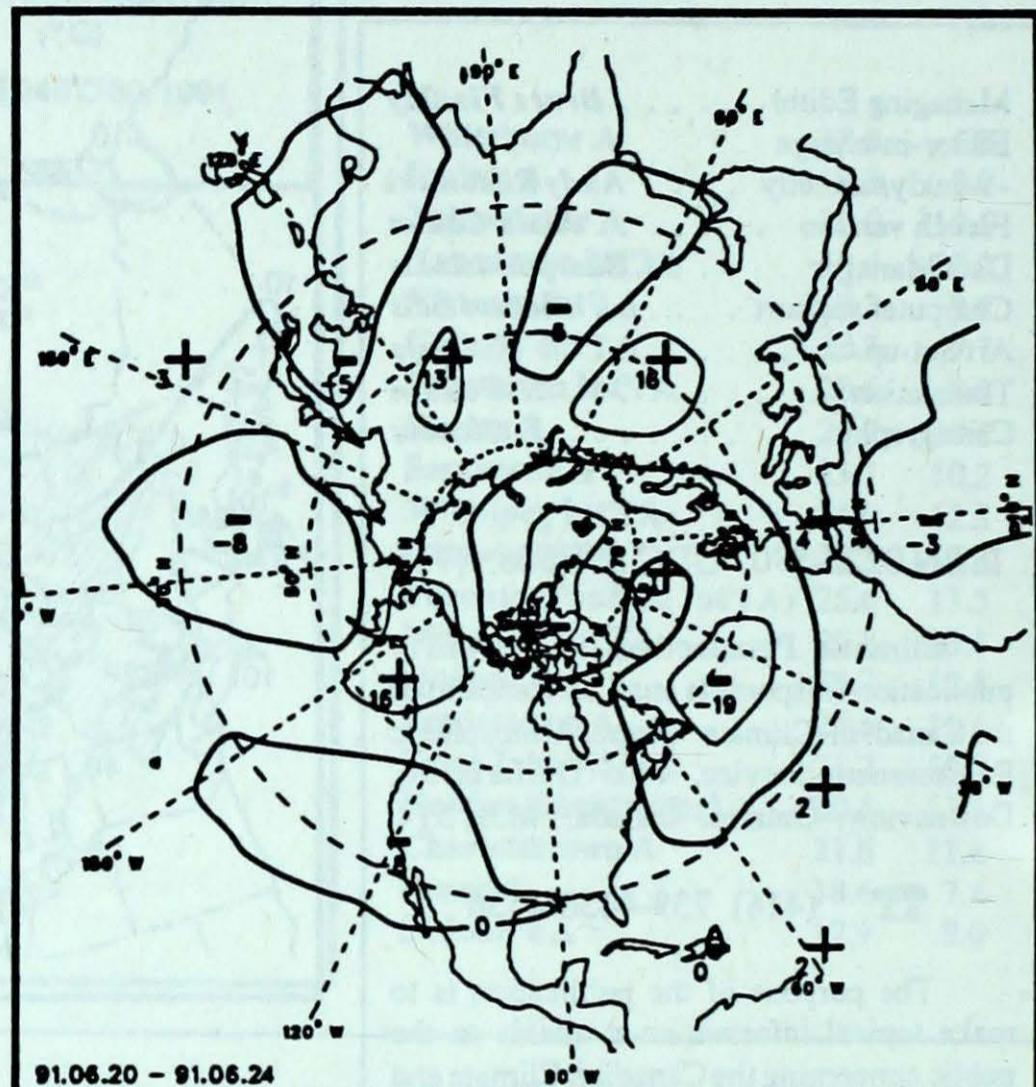
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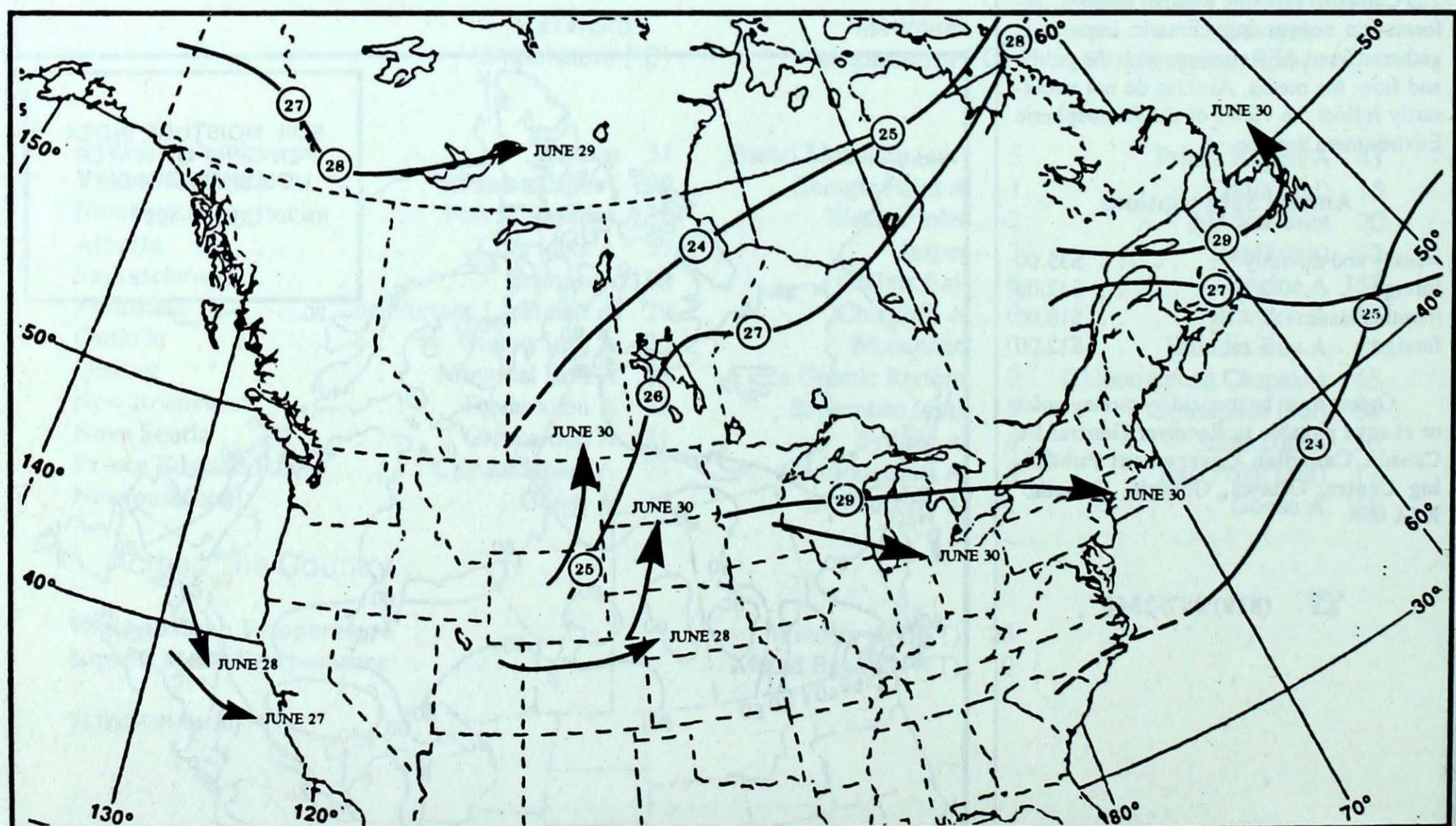
ATMOSPHERIC CIRCULATION



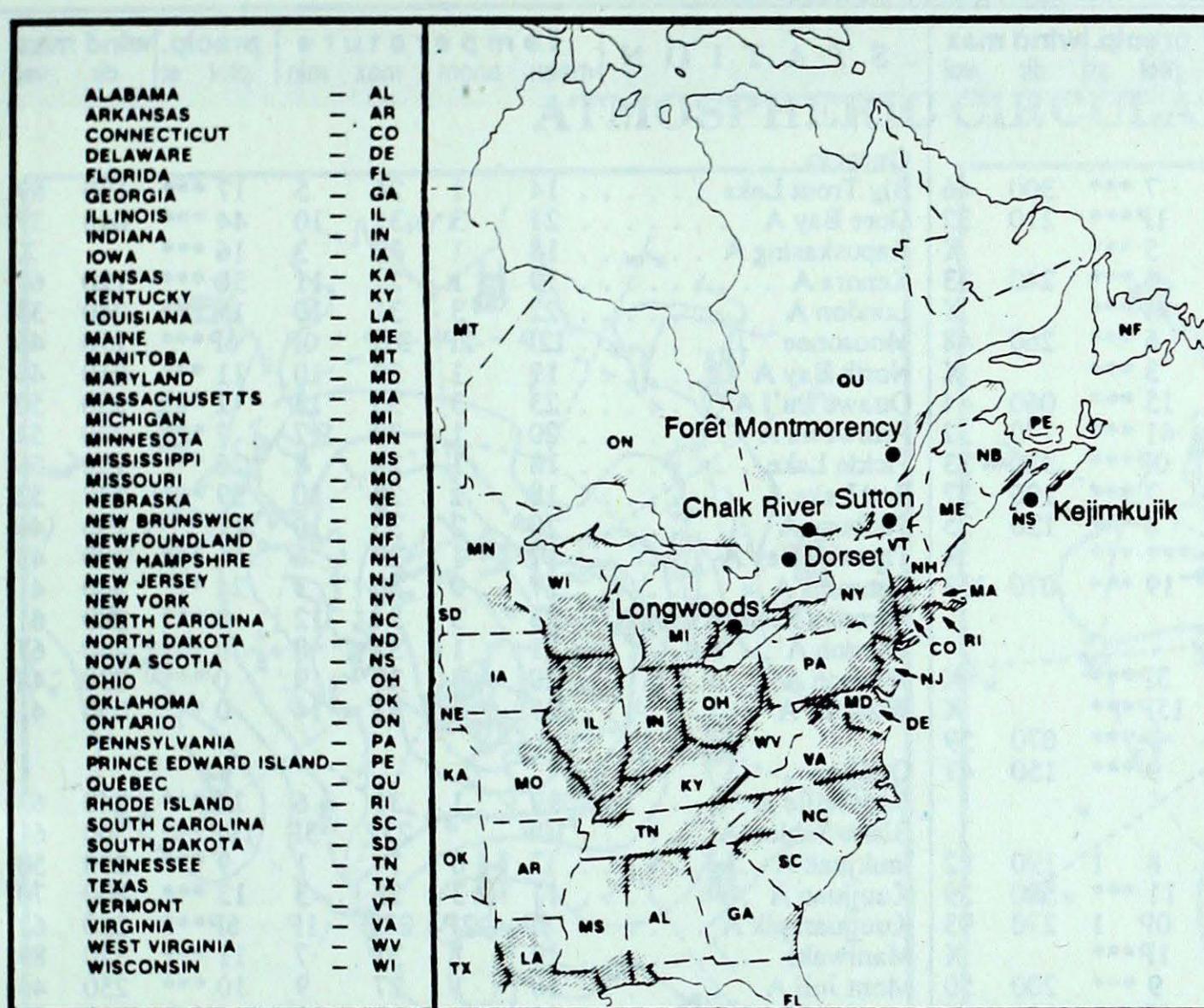
Mean geopotential height
50-kPa level (10-decametre intervals)



Mean geopotential height anomaly
50-kPa level (10-decametre intervals)



Tracks of low pressure centres at 12:00 U.T. each day during the period.



ACID RAIN

The reference map (left) shows the locations of sampling sites, where the acidity of precipitation is monitored. All are operated by Environment Canada except Dorset (*), which is a research station operated by the Ontario Ministry of the Environment. The map also shows the approximate areas (shaded), where SO_2 and NO_x emissions are greatest.

The table below gives the weekly report summarizing the acidity (or pH) of the acid rain or snow that fell at the collection sites, and a description of the path travelled by the moisture laden air. Environmental damage to lakes and streams is usually observed in sensitive areas regularly receiving precipitation with pH readings less than 4.7, while pH readings less than 4.0 are serious.

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Site	day	pH	amount	air path to site
Longwoods			 No rain this week
Dorset*	28	4.3	6 R Wisconsin, Lake Superior, Lake Huron
	29	4.4	15 R	..... Northern Ontario
Chalk River	27	4.1	4 R	..... Southern Michigan, Lake Huron
	28	4.5	6 R	..... Lake Superior, Northern Ontario
Sutton	27	3.9	7 R	..... Southern Michigan, Eastern and Southern Ontario
	28	4.7	2 R	..... Southern Michigan, Eastern and Southern Ontario
Montmorency	27	5.7	16 R	..... Northern Ontario, Northwestern Quebec
	28	5.7	16 R	..... Northern Ontario, Northwestern Quebec
Kejimkujik	24	4.6	2 R	..... Eastern Quebec, New Brunswick
	27	3.9	12 R	..... Eastern Ontario, Southern Quebec, Eastern New York, Northern New England
	28	4.2	16 R	..... Eastern Ontario, Southern Quebec, Eastern New York, Northern New England

June 23 to 29, 1991

..... r=rain(mm), s=snow(cm), m=mixed rain and snow(mm)

STATION	temperature	precip.	wind max	STATION	temperature	precip.	wind max				
	mean anom max min	ptot st	dir vel		mean anom max min	ptot st	dir vel				
British Columbia											
Cape St James	11 0 15 8	7 *** 300	46	Ontario							
Cranbrook A	16P 0P 23P 6P	1P *** 210	32	Big Trout Lake	14 -1	26 5	17 *** 130 69				
Fort Nelson A	18 3 29 10	5 *** X		Gore Bay A	21 3	31 10	44 *** 040 37				
Fort St John A	* 25 *	* *** 240	33	Kapuskasing A	18 1	29 3	16 *** X				
Kamloops A	19P 1P 30P 11P	4P *** X		Kenora A	19 1	27 11	50 *** 120 67				
Penticton A	19 1 29 9	6 *** 260	48	London A	22 3	31 10	15 *** 240 35				
Port Hardy A	14 2 17 8	3 *** X		Moosonee	12P -2P	31P 0P	6P *** 270 46				
Prince George A	16 3 24 7	15 *** 060	44	North Bay A	19 1	30 10	11 *** 010 44				
Prince Rupert A	13 1 16 10	41 *** 170	32	Ottawa Int'l A	23 3	35 13	2 *** 250 50				
Revelstoke A	18P 2P 28P 9P	0P *** 320	33	Petawawa A	20 1	32 7	7 *** 270 54				
Smithers A	17 4 27 7	7 *** 190	37	Pickle Lake	18 1	28 8	26 *** 230 56				
Vancouver Int'l A	16 1 24 11	6 *** 120	35	Red Lake A	18 1	28 10	59 *** 240 52				
Victoria Int'l A	15 0 23 8	*** *** X		Sudbury A	20 2	33 10	11 *** 190 46				
Williams Lake A	15 2 24 6	19 *** 070	133	Thunder Bay A	17 1	29 6	61 *** 290 43				
Yukon Territory											
Komakuk Beach A	10P 5P 20P 1P	3P *** X		Timmins A	17 0	30 3	24 *** 340 41				
Teslin (aut)	14P * 18P 8P	15P *** X		Toronto (Pearson Int'l A)	23 3	34 12	0 *** 280 61				
Watson Lake A	19 5 29 9	3 *** 070	59	Trenton A	21 1	32 8	8 *** 240 67				
Whitehorse A	16 3 27 6	9 *** 150	41	Wiarton A	20 3	30 9	0 *** 230 48				
Northwest Territories											
Alert	2 0 8 -3	8 1 190	82	Windsor A	25 3	33 14	0 *** 050 41				
Baker Lake A	8 1 20 1	11 *** 300	59	Québec							
Cambridge Bay A	5P 0P 13P 0P	0P 1 270	93	Bagotville A	19 1	31 6	12 *** 240 63				
Cape Dyer A	5P 3P 12P -1P	1P *** X		Blanc Sablon A	10P *	25P 3P	19P *** 360 61				
Clyde A	3 1 12 -2	9 *** 200	50	Inukjuak A	7 0	14 1	9 *** 230 50				
Coppermine A	8P 2P 27P -1P	0P *** 320	57	Kuujjuaq A	11 3	28 3	13 *** 270 70				
Coral Harbour A	7 1 21 0	2 *** 280	46	Kuujjuarapik A	8P -2P	27P 1P	6P *** 230 63				
Eureka	3 -2 6 0	4 *** 170	76	Maniwaki	19 1	31 7	11 *** 320 89				
Fort Smith A	17 2 29 6	2 *** X		Mont Joli A	18 1	27 9	10 *** 250 44				
Hall Beach A	5 2 11 0	7 *** 340	59	Montréal Int'l A	22 2	33 11	6 *** 290 82				
Inuvik A	14 2 25 2	7 *** 310	65	Natashquan A	12 -1	20 6	11 *** 350 61				
Iqaluit A	7 2 14 2	5 *** 320	57	Québec A	21 3	31 10	9 *** 311 41				
Mould Bay A	0 -3 2 -3	8 3 270	57	Schefferville A	12 1	25 1	7 *** 350 65				
Norman Wells A	16 1 28 8	6 *** 280	52	Sept-Îles A	14 0	23 5	29 *** 330 63				
Resolute A	1 -2 6 -1	8 1 020	43	Sherbrooke A	18 1	30 8	14 *** 250 57				
Yellowknife A	14 -1 23 8	9 *** 170	46	Val-d'Or A	18 1	29 4	24 *** 270 96				
Alberta											
Calgary Int'l A	14 0 21 8	22 *** 360	48	New Brunswick							
Cold Lake A	18 2 27 9	15 *** 150	35	Charlo A	*	30 *	* **** X				
Edmonton Namao A	16 1 23 9	17 *** 120	52	Chatham A	19 1	30 10	6 *** 320 67				
Fort McMurray A	18 2 26 9	26 *** 120	37	Fredericton A	19 1	33 7	3 *** 310 72				
High Level A	18 2 27 7	4 *** X		Moncton A	18 1	30 8	8 *** 330 83				
Jasper	15 2 26 3	7 *** X		Saint John A	17 2	29 5	4 *** 320 65				
Lethbridge A	15 -1 23 9	22 *** 270	59	Nova Scotia							
Medicine Hat A	16P -1P 25P 11P	15P *** X		Greenwood A	19 1	31 6	1 *** 250 74				
Peace River A	17 3 27 8	8 *** 150	46	Shearwater A	18 2	30 7	9 *** 320 59				
Saskatchewan											
Cree Lake	16 1 24 7	32 *** 030	56	Sydney A	14 -2	27 6	12 *** 310 91				
Estevan A	18 0 28 11	119 *** 240	89	Yarmouth A	16 1	23 7	6 *** 310 50				
La Ronge A	18 2 26 8	19 *** X		Prince Edward Island							
Regina A	18 1 27 12	153 *** 190	65	Charlottetown A	17 0	27 8	8 *** 320 63				
Saskatoon A	17 0 25 10	62 *** 110	32	East Point (auto)	15P *	24P 11P	17P ***				
Swift Current A	15P -1P 24P 10P	90P *** 130	54	Newfoundland							
Yorkton A	18 1 26 12	49 *** 090	48	Cartwright	12 2	28 0	24 *** 320 65				
Manitoba											
Brandon A	18 1 28 11	85 *** 030	61	Churchill Falls A	13 1	27 1	12 *** 300 70				
Churchill A	11 1 25 0	6 *** 350	50	Gander Int'l A	12 -2	26 3	14 *** 320 54				
Lynn Lake A	15 0 27 5	1 *** 350	44	Goose A	14 1	30 1	61 *** 250 52				
The Pas A	17 1 25 11	16 *** 011	33	Port Aux Basques	11P 0P	20P 5P	7P *** 310 74				
Thompson A	14 -1 27 1	10 *** 340	48	St John's A	9 -4	22 1	-31 *** 250 46				
Winnipeg Int'l A	19 0 28 9	73 *** 320	115	St Lawrence	10 0	23 3	0 *** X				

mean = mean weekly temperature, °C
max = maximum weekly temperature, °C
min = minimum weekly temperature, °C
anom = mean temperature anomaly, °C

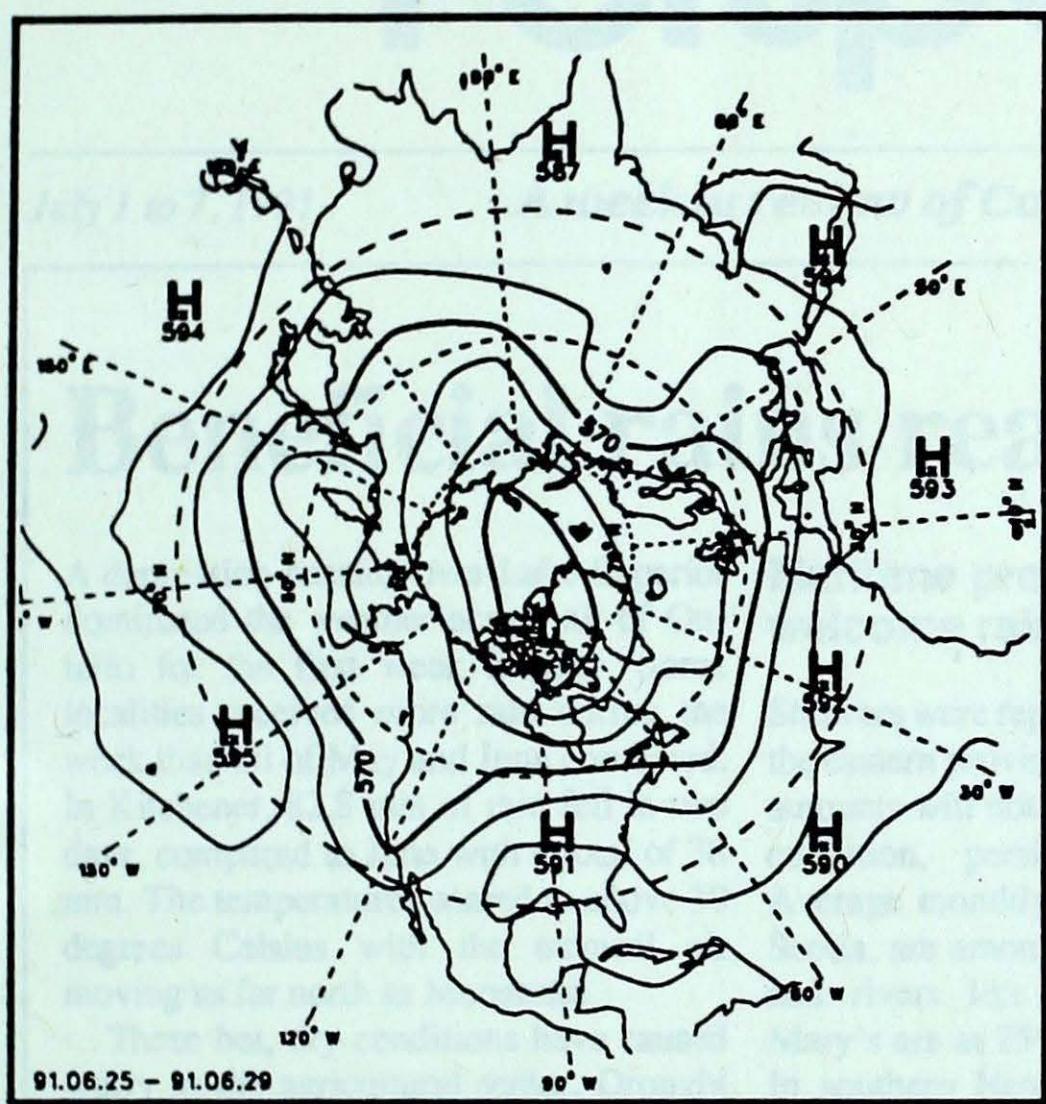
ptot = weekly precipitation total in mm
st = snow thickness on the ground in cm
dir = direction of max wind, deg. from north.
vel = wind speed in km/h

91/06/24-91/06/30

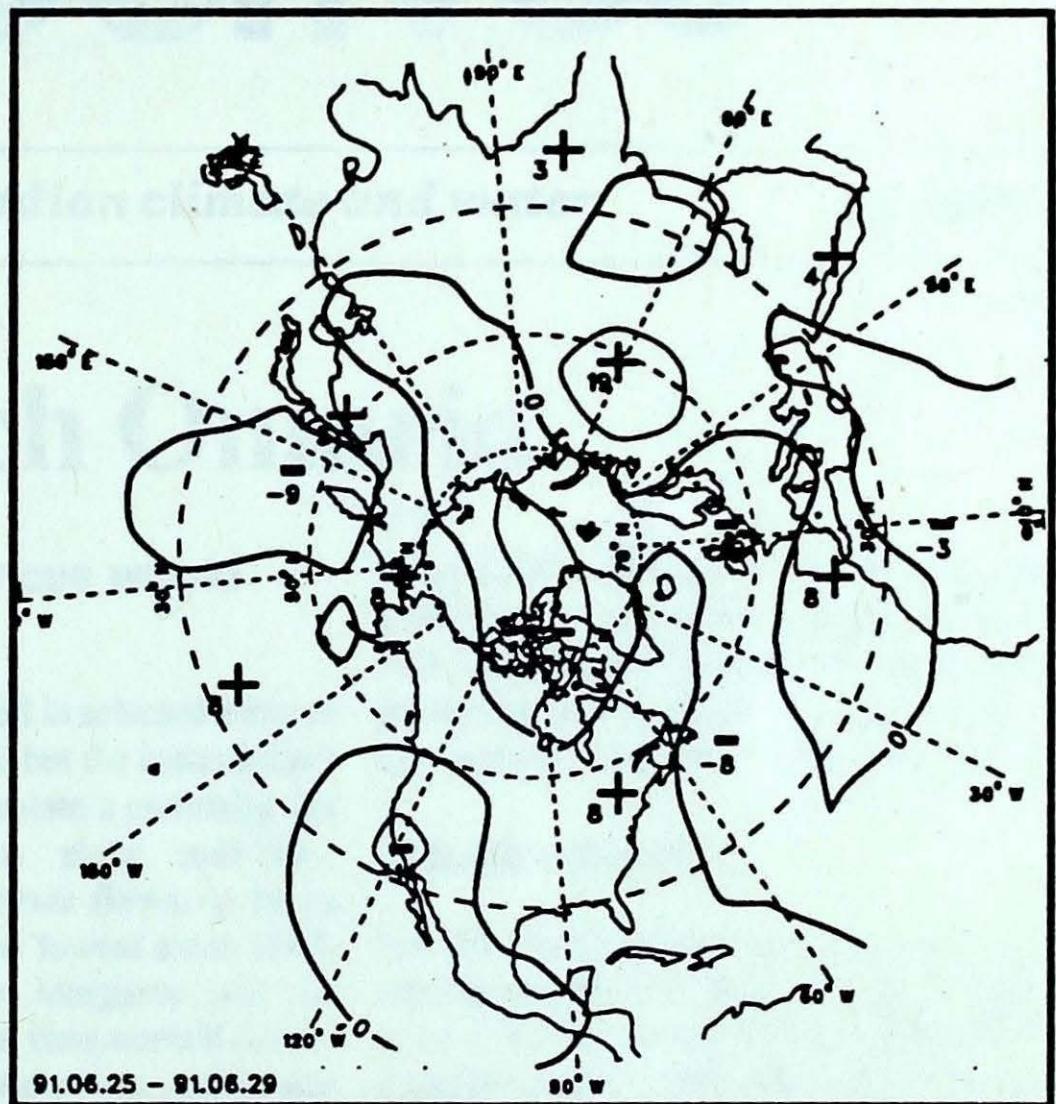
— Annotations —

X = no observation
P = less than 7 days of data
* = missing data when going to printing.

ATMOSPHERIC CIRCULATION



Mean geopotential height
50-kPa level (10-decametre intervals)



Mean geopotential height anomaly
50-kPa level (10-decametre intervals)



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MONTHLY TEMPERATURE FORECAST

*Normal temperatures for
July, °C*

Whitehorse	14	Toronto	21
Yellowknife	16	Ottawa	21
Iqaluit	8	Montréal	21
Vancouver	17	Québec	19
Victoria	16	Fredericton	19
Calgary	16	Halifax	17
Edmonton	17	Charlottetown	18
Regina	19	Goose Bay	16
Winnipeg	20	St. John's	16

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